Name _____ Block_____ Date 4/11/11

Earth Science Web quest

Directions: Answer each of the following questions on a separate sheet. Make sure to skip lines as you write down the answers and that the answers are in complete sentences

Part 1→Click on Plate Movement/ earthquake and volcanoes ON Mrs. McNamara's page website

1. Click on "Maps." Check the boxes for boundaries, volcanoes, earthquakes, hotspots and velocities. What correlations do you see? What seems to have no relationship?
2. Click on "Motion." Move the plates to see how they have changed over time. What do the black lines represent? How about the green areas
3. Click on "Details."

a. What is oceanic-continent subduction? What is a continental volcanic arc and what are some examples?

b. What is a continent-continent collision? What are some examples?

c. What is ocean-ocean subduction? What are some examples?

d. What is a continental rift? What are some examples?

e. What is a midocean ridge? How is it like a conveyor belt?

f. What is a continental transform? What is an example?

g. What is an oceanic transform?

h. What are oceanic hot spots? What are some examples?

i. What are continental hot spots? What are some examples?

Part 2→Click on "Interactive Volcano" on Mrs. McNamara's website

1. Click on Global Perspective. What are tectonic plates?
2. Click on "Ring of Fire" (bottom right corner). What is the "Ring of Fire"?
3. Click on "Layers Within." What are they?
4. Click on "Volcano Types." What are the 3 types of volcanoes? Describe each type.
5. Click on "Inside a volcano." Draw a picture of the inside of a volcano and label the different parts.
6. Click on "Build your own volcano and watch it erupt." How do viscosity and gas factor in volcanoes?
7. Click on "viscosity info". What is it?
8. Click on "gas info." What is it?
9. Now try your hand at varying the conditions of the volcano and starting the eruption. Fill in the chart below.

quiet eruption

Settings	Type of volcano	Type of eruption
low viscosity and low gas setting	Shield	effusive
high viscosity and low gas setting	dome	slow
Low viscosity and high gas setting	Shield	Hawaiian fire fountain
high viscosity and high gas setting	stratovolcano	plinian

Madison Moyer

1) The correlationships that I see is that they are all found around the same areas (except for hot spots). The hot spots seem to have no correlation because they are scattered all over the plate.

2) The black lines show the current shorelines of all present day landmasses. The green area represent the the outline of actual landmasses, including their underwater portions.

3) A continental subduction is when a deep sea trench forms at the front of the subduction zone where the plate bends downward. An accretionary wedge forms next to the trench on the leading edge of the ~~over subducting~~ overriding plates. A continental volcanic arc is when the magma rises and erupts to form a chain of volcanoes

3B) continent-continent collision is when the ocean plate capped with a continent collides with the overriding continental plate.
Ex: India and Asia

3C) An ocean-ocean subduction is a dense, oceanic lithosphere plate beneath another oceanic lithosphere plate. A deep sea trench forms at the front of the subduction zone where the plate bends downward.

3D) continental rift is where hot asthenosphere rises up beneath a continent, the crust heats up and weakens and gradually begins faulting and breaking apart.
Ex': Lake Tanganyika, Lake Victoria, and Baikal,

3E) A mid ocean ridge is the hot asthenosphere underneath carrying two plates apart, as the rising mantel rock melts magma is injected between the plates to create new crust and lithosphere. The midocean ridge is like a conveyer belt because new basaltic crust is added to the spreading edge and older crust is carried away.

3F) continental transform is when continental lithosphere plate boundaries tend to tear the region apart into many seperate fault segments.
Ex: Southern and Central California.

3G) the oceanic transform is when transform faults in the ocean tend to be quite straight with deformation occuring only in the region very close to the fault.

3A) Hot spots represent an area in which rock hot rock rises from deep in the mantle

3B) Continental hot spots are hot spots that erupt onto the continental lithosphere. (may produce a wide variety of magma types, depending on what types of rock are melting.

Part 2

1. Tectonic plates is the earths crust that is divided into large sections that fit together like puzzle pieces.

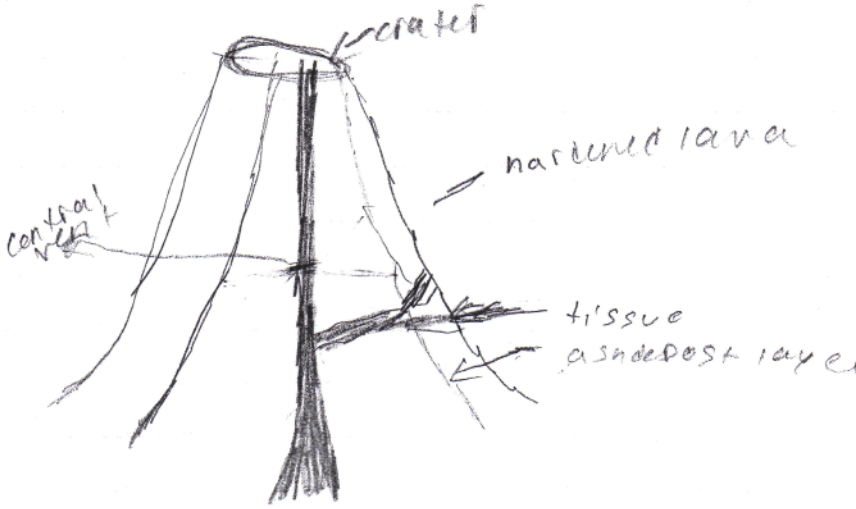
2. one of the worlds most active volcanoe zon is called the ring of fire. It runs along the west coast of the Americas.

3. The "layers within" are the crust, the upper mantle, the lower mantle, the outer core and the inner core.

4. There are three types of volcanoes, one is called the stratovolcano. This type comes in many is built from layer upon layer, of mostly visco magma have relatively steep sides and can grow to great heights, another type of volcano is the cinder cone. The cinder cone is relatively small, usually less than 1,000 feet high, with very steep sides and a cylindrical shape, the third type of volcano is the shield volcano. This

volcano is massive structures with broad, gently sloping sides that usually build up from the sea floor.

5.



6. Gas factor in volcanoes form from shapes and explosiveness.

7. Viscosity info is the magmas viscosity, or thickness, is usually an indication of the amount of silica it contains.

8. Gas info: the magma's gas content usually depends on the amount of water (steam) and carbon dioxide dissolved within the flow.